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REPORT OF THE 1939-40 INSECT CONTROL WORK IN THE ARROWHEAD RANGER DISTRICT
(Arrowhead-Crestline Project)

LANG, GEORGE P.
SKYFOREST, CALIFORNIA
MARCH 22, 1940

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BUREAU OF
Entomology and Plant Quarantine
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Laboratory,
BERKELEY, CALIF.

S
Insect Control
Arrowhead-Crestline Project
1939-40

Arrowhead R.S.
Skyforest, Calif.
March 22, 1940

Handed to Miller & Carlson
By Ranger Lang at Arrow-
head R.S. Apr. 18, 1940
S. Thorlson

Forest Supervisor:

Because of the ramifications of the 1939-40 insect control work in the Arrowhead Ranger District I will give this report in narrative form.

This work started with a preliminary reconnaissance by John Miller and S. T. Carlson of the Bureau of Entomology between November 1st and November 5th, 1939 assisted by Insect Control Foreman James M. Graham and myself. See Mr. Millers report of November 7, 1939 for details. This reconnaissance was the basis on which funds were set up and plans made for the control project. At the time we considered the only possibility of securing control work on private lands would be through voluntary contributions by the larger land holders and on this basis the first spotting was begun November 8, 1939 on Lake Arrowhead Company lands and the larger land owners adjacent to Crestline i.e. Chas. S. Mann, Arthur Gregory, Crest Forest Water District etc. This line of reasoning was taken in order to gain a definite quantity figure with which to approach these owners for control work on their lands. In the meantime the writer spent some time with members of the Rim-of-the-World Realty Board in an effort to find some legal method of County financed insect control work on private lands. This effort finally gained headway and upon advise of the District Attorney it was found legally possible to expend County Flood Control funds in this work. Estimates were furnished a meeting of the Zone 5 County Flood Control District and by their action and request the County Board of Supervisors authorized the expenditure of $2400 for insect control work on private lands within their flood control zone. Approximately 49 man days at an estimated value of $294.00 was contributed by the Forest Service to spotting on private lands within the flood control district. Spotting on Government lands was started on the Arrowhead Insect Unit on November 28th in the most remote sections from a transportation standpoint.

Spotting was carried on during the entire duration of the project on both Government and private lands. Fading foliage was difficult to discern during the early winter spotting necessitating later re-spotting of most of the areas as infested trees became more readily recognizable. This work was carried on by Government Insect Control Foreman James M. Graham and County Flood Control Insect Foreman Leslie B. Salm, both of whom are summer Forest Service employees and both are well qualified in insect control work.

SPOTTER RECORD

Entomological Insect Control Unit	Spotter Gov't Graham	Spotter County Salm	Total Trees Cut	Poles Cut	Grand Total Trees & Poles Cut	Approx. No. Acres Treated
Crestline Unit - Private	76	83	159	167	326	5800 Acres
Arrowhead Unit - Private	78	57	135	223	358	5800 "
Bear Creek Unit - Private	-	14	14	16	30	1300 "
Rim Unit - Private	-	44	44	10	54	4400 "
Rim " - Gov't	12	-	12	-	12	1200 "
Green Valley Unit "	3	-	3	-	3	2500 "
Snow Valley Unit "	38	-	38	-	38	3800 "
Arrowhead Unit "	124	-	124	26	150	7700 "
Crestline Unit "	15	-	15	-	15	1900 "
TOTALS	346	198	°544	°442	986	34,400

° Only trees over 10" D.B.H. were given tag and number. Poles under 10" D.B.H. were not numbered.

F.S. contribution to private land insect control 154 trees spotted

F.S. financed spotting on Government lands 192 " "

Total spotting financed F.S. funds 346

Government treating of insect infested trees began on January 10, 1940 in the vicinity of Rock Camp on the Toll Road within the Arrowhead Control Unit with two 4-man CC crews each in charge of a foreman. Actual treating was started in this area because normal winter weather closes it to auto travel during January and February. All treating operations completed March 15, 1940.

The Government CC crews were quartered at the Arrowhead R.S. barracks and each crew had a pickup truck to simplify the transportation problem involved in widely scattered infested tree groups.

On January 15, 1940, Protective Assistant Leslie B. Salm, was hired by the Flood Control District to supervise the insect control work on private lands. On that date he started a local labor 4-man crew in the Crestline Unit and two 4-man local labor crews in the Arrowhead Unit which crews carried on until near the close of the job. About March 1, another crew of locals was started in the Rim Unit. These men were all hand picked local woodsmen; the requirements being that they

own property and have a family. Wage rates were $5.00 per day for crew foreman and labor $4.50; the men furnished their own transportation and tools. General Forman Salm was paid $6.00 per day plus .05 per mile for mileage of personally owned car.

All County insect control work was completed March 20, 1940.

Following is a copy of final financial and accomplishment report of Leslie B. Salm who handled the County Flood Control work.

FINANCIAL REPORT

Project Allotment	$2400.00
Wages, 459 man days	$2214.00
Travel 2073 miles @ .05	103.65
Repair bill Crestline Ser. Co.	5.08
Unexpended balance	77.27

ACCOMPLISHMENT REPORT

Arrowhead Area	149	trees	- 241	poles	treated	7100	acres
Arrowbear Area	44	"	10	"	"	4400	acres
Crestline Area	159	"	171	"	"	5800	acres
TOTAL	352	trees	422	poles	treated	17,300	acres

Total man days worked - 459 including overhead (Salm)
Man days worked per tree - .59
Cost per tree (incl.poles) -- $3.00 - Trees only $6.60

The above is a very credible showing and will no doubt result in a substantial reduction in the infestation. Because of the success of this Flood Control Project this first year, it is anticipated that work will be continued as necessary in the future. The cost per tree is considerably below the original estimate which was based on normal winter snow conditions. This exceptionally low cost is probably the rock bottom and future estimates, based on these figures, should keep this in mind.

Following is accomplishment report for the entire control job, by units, based on tree tags turned in and actual direct time charges exclusive of overhead and exclusive of spotting, i.e., direct treating time only:

INSECT CONTROL UNIT	PRIVATE LANDS							GOV'T LANDS						
	Trees Treated	Av. Stump Dia.	Poles Treated	Total Man Days	Av. Man Days Per Tree	Av. Man Days Incl. Poles	Approx. No. Acres Treated	Trees Treated	Av. Stump Dia.	Poles Treated	Total Man Days	Av. CC Days Per Tree	Av. CC Days Incl. Poles	Approx No. Acres Treated
Crestline Unit	159	19"	167	177			5800	15	below	-				1900
Arrowhead Unit	135	24"	223	185			5800	124	25"	26				7700
Bear Creek Unit	14	above	16	above			1300	-	-	-	-	-	-	
Rim Unit	44	22"	10	36			4400	12		-				1200
Green Valley Unit	-	-	-	-			-	3		-				2500
Snow Valley Unit	-	-	-	-			-	38		-				3800
Totals	352	21"	416	398	1.1	.5	17300	192	27"	26	439	2.2	2.0	17100
									Based on 8 hr. day					
									Same as Private crews			1.4	1.3	

By analyzing the above figures, it will be noted that inexperienced CC boys under excellent experienced foreman show a production equal to the mature woodsmen employed on private land when the average diameter of trees are considered. Trees cut from Government land averaged 6" greater than those cut from private land.

The number of poles cut on private land far exceeds the number cut from Government land. Since the poles were not tagged it is impossible to check the accuracy of this factor on either Government or private lands. In future work all trees to be cut will be tagged by the spotter. Another factor having a definite bearing on efficiency of production is that CC crews were more or less constantly 4 boys and a foreman regardless of tree distribution which somewhat raises the cost per tree. CC safety regulations make it necessary that crews be kept rather compact even though a particular part of the job is over-manned. Conversely, the private land crews were very efficiently handled by cutting down the size of crews to fit the job at hand and expanding as necessary.

As was mentioned briefly above we have had an exceptionally mild winter with no snow storm exceeding 2" in areas being treated and only about 3 days which were too stormy for the CC crews to work. The absence of snow, mud and stormy periods has resulted in a very low cost on both Government and private lands. All infested trees which could be found on the areas approved for control work have been cut and treated.

FINANCIAL STATEMENTS

GOVERNMENT EXPENDITURES

November 2, 1939 to March 28, 1940
Inclusive

SERVICE REPORT SUMMARY

NAME	Spot Private Land					Spot Gov't Land					Gen'l Camps, Supervisor Tools, etc.					Cut Government				Total Payroll Days
	Nov	Dec	Jan	Feb	Mar	Nov	Dec	Jan	Feb	Mar	Nov	Dec	Jan	Feb	Mar	Jan	Feb	Mar	Leave	
Sam Evans	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
Leslie Salm	8	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
J. M. Graham	20	-	5	3	-	3	30	3	1	-	6	-	22	14	5	-	12	13	10	147
Vern Mills	-	-	-	-	-	-	-	-	-	-	-	-	7½	3	1	21	27	14	6½	80
J. Cunningham	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	20	14	-	3	41
Geo. P. Lang	-	-	-	-	-	-	-	-	-	-	6	4	7	5	3	-	-	-	-	25
CC Man Days	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	522
Totals	40	1	5	3	-	3	30	3	1	-	12	4	36½	26	28	41	53	27	19½	314
																			TOTAL	836

154	Trees Spotted	Gov't Time/ Spot Private Land	49	Man Days @ $6.00 Cost $294.00
192	Trees Spotted	" " Spot Government	37	" " " " " 222.00
-	Trees Spotted	" " Supervision Incl. Camps, Sat. & Sun.	87½	" " " " " 525.00
192	Trees Cut	" " Cut & Treat trees Gov't.	121	" " " " " 445.47
		Annual leave against Project	19½	" " " " "
		Total Overhead	314	Man Days $1486.47
		CC Man Days Charged to Project	522	" " @ $1.50 per day 783.00

Total Cut 192 trees and 26 poles - Grand Total Expended in Labor $2269.47

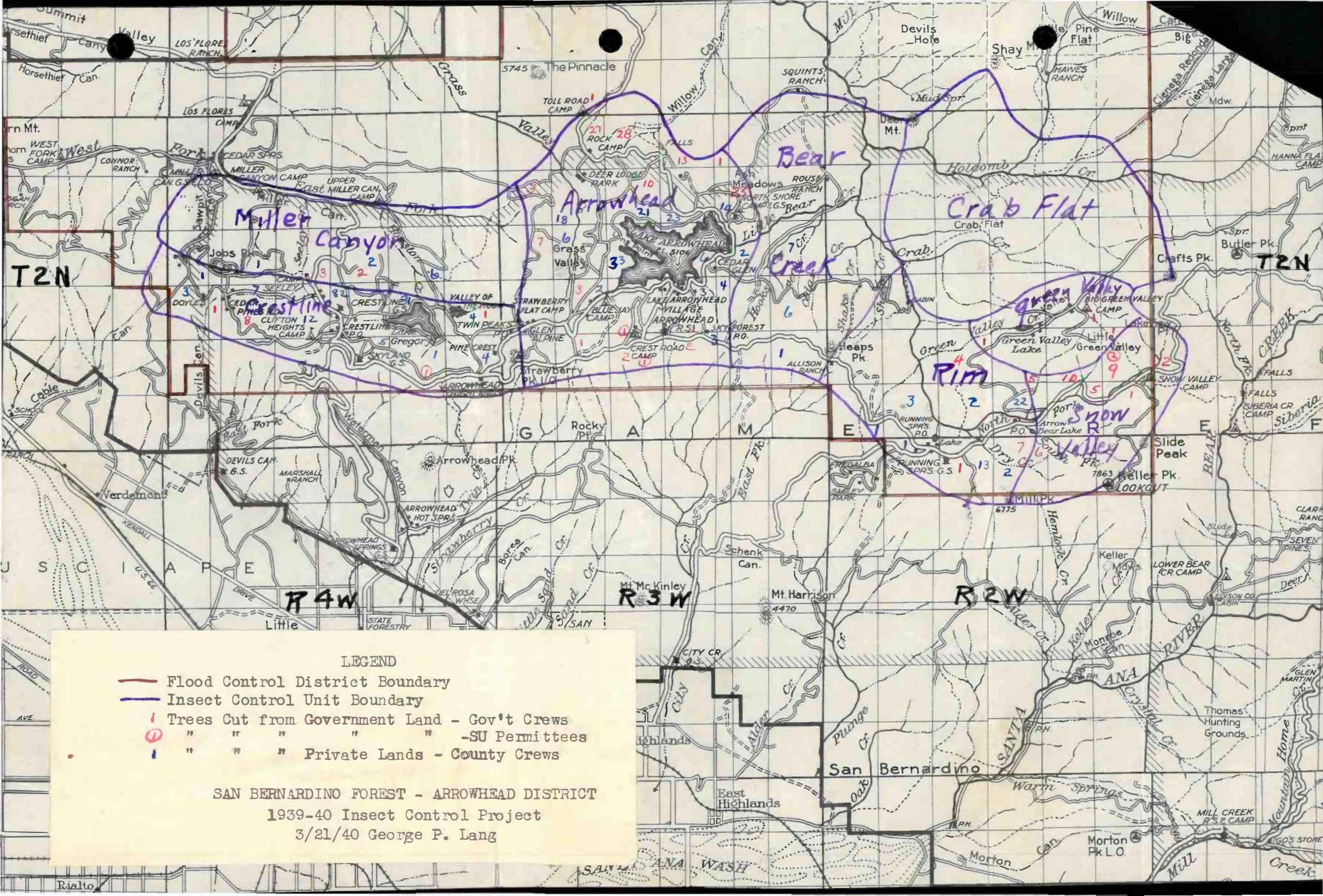
SUMMARY OF 1939-40 PROJECT COSTS

Forest	San Bernardino		
Project Name	Arrowhead-Crestline		Aone 5 Flood Control
Duration	11/2/39 to 3/28/40		Jan. 10 to Mar. 20
Species	Ponderosa, Jeffry, Sugar Pine, Coulter		Same
Insects	D B, D J., D.M., Flatheads & Ipps		Same
Total Acreage	17,100 Acres		17,300 Acres
Method	Peel and Burn		Peel and Burn
Trees Spotted	218 Gov't and 154 Private		198
Trees Treated	218 Gov't		352
Expend. P&M Insect Control -	Salaries 897.15		
" " "	Transportation 147.24		
" " "	S & E 40.43	1084.82	
Proj. Funds	CC Labor @ $1.50 Man Days	783.00	
CC	Transportation	113.76	
CC	Supplies	1.73	
CC	Salaries	589.32	
Expended Contrib. Time & Exp. - 199 hrs.		175.12	
Total Cost of Project - Gov't Funds		2747.75	County Funds 2322.73
Less Contrib. to Private Land		350.00	Gov't Contribution 350.00
Total Net Cost of Project		2397.75	Total 2672.73
Cost per tree		10.99	7.59
Results	Good		Good
Percent of Reduction	75%		75%

By a study of the above summary, it will be noted that the cost per tree is increased somewhat by the necessity of equipping and maintaining a 12 man camp, operating three pickups directly charged to insect control and furnishing supervision from project and CC funds. Three man months, costing $450.00 during November and December were expended in early spotting to determine what the job would consist of before actual control work began on Jan. 10, 1940. As mentioned above all this area had to be re-spotted later in the winter.

George P. Lang
District Ranger

cc P.J. Cormack, Zone 5
Howard Way, SB Co.
R.O.
John Miller, Bureau of Entomology
Ranger


Miller Canyon
Arrowhead
Bear
Crab Flat
Green Valley
Rim
Snow Valley
Crestline
Strawberry
Creek
T2N
T1N
R4W
R3W
R2W
LEGEND
Flood Control District Boundary
Insect Control Unit Boundary
Trees Cut from Government Land - Gov't Crews
" " " " " -SU Permittees
" " " Private Lands - County Crews
SAN BERNARDINO FOREST - ARROWHEAD DISTRICT
1939-40 Insect Control Project
3/21/40 George P. Lang